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time. In other words, this would mean that the form of the light curve is, doubtless, within limits, in a state of more or less constant change. It is possible that the change here referred to may be due, in part at least, to the existence of a periodical irregularity in the length of the period of variation, but the observations hardly favour this, though they have not yet been continued long enough to settle the question. It should be noted that the largest and most important change indicated by the residuals of Table II. is supported by the accordant observations of two different observers, so that there cannot be much doubt as to its reality.

With regard to the magnitudes in the penultimate columns of the tables, it should be remarked that the systematic difference between Nijland and the writer is probably due to a difference of scale. The comparison stars made use of at Utrecht were different from those used here. In particular, Nijland used the star BD. + 47°·573 ($8^{m}{\cdot}3$) when the variable was bright, whereas at such times the star BD. + 47°·571 ($8^{m}{\cdot}2$) was employed by the writer. At the Laws Observatory the comparisons were made with another different star, BD. + 48°·612 ($9^{m}{\cdot}3$), Seares stating that Haynes's observations show a range of $2^{m}{\cdot}8$, with a maximum $1^{m}{\cdot}0$ brighter than the last mentioned star. Probably we shall not be far wrong if we adopt a range of variation from 8½ mag. to 11 mag.

The light curve of this variable, according to the observations made here, is very acute at the time of maximum, and the decline very quick. But after the minimum there is sometimes at first only a slight increase in brightness, followed by a long standstill; or even by a secondary minimum, with an intervening secondary maximum, as observed by Nijland in 1906.

The spectrum of RV Andromedæ appears to be peculiar. Thus the Rev. T. E. Espin recorded it as III !!! in 1893,* whilst Mr F. Krüger described it as being III !! (?) in 1902, the bands appearing broad and deep, and the blue and violet wanting.†

On the Variable Star RX Andromedæ. R.A. = $0^{h}\ 58^{m}\ 55^{s}$, Decl. = + 40° 46′·2 (1900). By A. Stanley Williams.

The observations of this variable star, which were made here in the year 1905, have already been published in full in the *Monthly Notices*, vol. lxvi. pp. 336, 337. These showed that the star in that year underwent many sudden and irregular variations in brightness, of such a character that, taken in connection with the earlier observations, it seemed as though the variable should be regarded as belonging to the highly-remarkable type of *U Geminorum*.

Between July 24 and December 21 of last year, 48 observations of the brightness of the star were made on 45 nights, but its

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* *A.N.*, No. 3231.

† *A.N.*, No. 3991.

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history during the period of time covered by the observations proved of a most uneventful and quiet character. With the exception of the few occasions hereafter more particularly referred to, when a comparatively slight increase in brightness was manifested, the variable remained almost unchanged at about 9 of the provisional light scale,[*] corresponding to 11·6 mag., that is, at about its minimum brightness.

It seems unnecessary, under the circumstances, to set out all these observations in full, and I therefore give below, in Table I., simply the dates when the star was observed faint or near its minimum brightness.

TABLE I.—*Dates when RX Andromedæ was observed faint.*

1906 Aug. 19, 21, 22, 25, 27, 28, 29, 30, 31; Sept. 1, 6, 9, 10, 15, 16, 19, 20, 22, 24, 25, 26, 27, 29; Oct. 23, 25, 27, 28; Nov. 11, 15, 17, 19, 22; Dec. 21.

TABLE II.

Observations made when RX Andromedæ was bright.

Date.	G.M.T.	Observations.	Sky.	Brightness.
1906 July 24	13^h 10^m	d 3 v 8 e, c 3 v	IV.	19·5
25	13 34	d 7 v 5 e, c 8 v	IV.	17·6
27	13 25	d 7 v 3 e, c 9 v	IV.	16·7
Aug. 16	11 46	d 8 v 1 e	IV.	15·6
Sept. 11	11 33	d 3 v 4 e, c 2 v[†]	IV.	18·8
,,	13 47	d 2 v 5 e, c 2 v	IV. ☽	19·4
12	16 03	d 5 v 0 e, c 6 v	IV. ☽	15·3
Oct. 5	15 47	d 5 v 0 e[‡]	III. ☽ ☽ ☽	15·2
6	12 57	d 4 v 5 e	III. ☽ ☽	18·1
10	9 38	v 2 d, v 9 e, v 2 c	III.	23·4
13	10 07	d 6 v 0 e	III.	14·9
14	8 46	d 3 v 3 e	IV.	17·8
Dec. 21	10 58	d 5 v 2 e	III.	16·6

The last column gives the brightness according to the provisional light scale. It will be seen that none of the observations of Table II. make the star very bright, and although it is possible that in one or two cases the actual maximum may have happened at a time when there are no observations available, yet this certainly could not have been the case as regards the temporary increase in brightness that occurred on September 11 and 12, since there are observations both before and after these dates showing that the

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[*] *Monthly Notices*, vol. lxvi. p. 336, Table I.

[†] Light of variable very unsteady.

[‡] Sky bright and stars faint but variable, certainly fainter than *d*.

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star was then faint. It would seem, therefore, that we are justified in concluding that during the latter half of 1906 the variable remained persistently faint, and nearly at its minimum brightness, during the greater part of the time, and only underwent occasional and comparatively feeble augmentations of brightness, or abortive maxima. The *U Geminorum* type of variation of the star is confirmed by the recent observations, though there seem to be minor differences between all the stars of this class. The range of variation of *RX Andromedæ* is less than that of *U Geminorum*, but the former appears to be more irregular even in its light changes than the latter.

New Double Stars. By the Rev. T. E. Espin, M.A.

The following pairs have been found with the 17¼ in. Reflector during the spring. The weather has been persistently unfavourable since the end of March, and few measures have been obtained.

No.	B.D.	R.A.		1900 Decl.		P.	D.	Mags.		Nights.	Date.	
	°	h	m	°	'	°	"				1900.	
404	+56,114	0	37·2	+57	5	68·1	2·90	9·3	12·5	1	7·063	
405	+57,171		49·8	57	15	114·8	4·17	9·0	9·0	2	7·043	
406	+56,153		50·9	56	52	149·1	3·67	9·2	9·5	2	7·073	
407						90·1	3·55	9·4	11·0	2	7·073	
408	+57,251	1	13·3	57	45	160·1	2·70	9·3	11·2	2	7·073	
	408 407					345·2	89·98			3	7·094	
409	+55,506	2	0·6	55	39	108·7	1·95	9·5	11·0	2	7·106	
410	+34,769	3	50·2	34	10	102·8	2·88	9·4	9·8	3	7·073	
411	+33,752		52·1	33	40	46·2	4·47	9·2	9·3	2	7·073	
412	+32,876	4	57·4	32	14	267·6	4·77	8·5	12·0	3	7·108	
413	+32,880		58·6	32	13	5·4	5·93	9·0	13·5	3	7·108	
414	+33,975	5	6·3	33	25	183·8	2·38	9·0	9·1	3	7·129	
415	+32,1109		44·8	32	6	16·1	15·00	6·9	12·5	2	7·089	
416	+31,1219	6	4·1	31	33	197·7	7·65	8·9	11·5	2	7·166	
417	+33,1265		4·2	33	1	330·0	13·55	8·0	12·5	2	7·206	AB
						237·0	14·50		14·5	2	7·206	AC
						275·5	37·55		11·0	2	7·206	AD
418	+35,1600	7	16·8	35	12	15·7	13·20	8·1	13·3	3	7·166	
419	+34,1641		28·2	33	56	125·6	3·58	10·0	10·7	3	7·073	BC
						44·0	58·30	A =	9·4	2	7·065	AB
420	+29,1597		39·5	28	59	273·4	2·65	12·5	13·0	1	7·246	BC
						118·1	60·79	A =	8·7	1	7·246	AB
421	+29,1632		46·1	28	57	217·8	6·20	9·0	12·0	2	7·243	